

PROVIDENCE SEWAGE TREATMENT SYSTEM,
Fields Point Plant, Return Sludge Pumping Station
Ernest Street
Providence
Providence County
Rhode Island

HAER No. RI-20-I

HAER
RI
4-PROV,
191I-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Mid-Atlantic Region
Department of the Interior
Philadelphia, Pennsylvania 19106

HISTORIC AMERICAN ENGINEERING RECORD
PROVIDENCE SEWAGE TREATMENT SYSTEM:
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LOCATION: East end of Ernest Street, Providence,
Providence County, Rhode Island
UTM: 19.301550.4629500
Quad: Providence, RI

DATE OF CONSTRUCTION: 1934-35

ENGINEER: S. Frank Nolan

PRESENT OWNER: Narragansett Bay Commission
44 Washington Street, Providence, RI

PRESENT USE: Not in service.

SIGNIFICANCE: Built in 1934-35, this building is directly associated with the conversion of Providence's Fields Point Sewage Treatment Plant from the chemical precipitation process to the activated sludge process. It contained the pumps which returned a portion of biologically active sludge back into the treatment process, and as such was integral to the modernized operations of the plant.

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FIELDS POINT PLANT, RETURN SLUDGE PUMPING STATION
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DESCRIPTION:

The Return Sludge Pumping Station is located in the easterly portion of the Fields Point sewage treatment plant operated by the Narragansett Bay Commission in Providence. Situated adjacent to aeration tanks, the building contains pumps which returned a portion of biologically active sludge from these tanks back into the treatment process.

The Return Sludge Pumping Station has a concrete substructure and red brick superstructure topped with a slate-clad hipped roof. It is massed as a four-bay by six-bay main block with a hipped-roofed bay projected from the west side. The entrance to the building is in this bay, through a double-leaf metal door. The bay also contains control panels for operation of the pumps. The interior is illuminated by tall windows fitted with 6/3 metal window elements in which the upper sash pivots on a horizontal axis for ventilation. On the ridge of the composition-shingled main roof are a metal ventilator and a short brick chimney.

The floor of the station is about 11 feet below the level of the entrance, and is accessed from a metal stair extended from a catwalk along the west side. Three Worthington sludge pumps, with to-mounted General Electric 75 hp motors, are mounted on concrete pedestals. As a dry well containing pumps, the building presents a utilitarian quality that has remained essentially unaltered since its construction in 1934-5. The original pumps, however, are no longer present, having been replaced in 1956 and again in 1979. The building is no longer in service.

HISTORICAL INFORMATION:

The Return Sludge Pumping Station was built in 1934-35 as an integral component in the remodeling of Fields Point in the early 1930's. During this period, the Fields Point facility was converted from a chemical precipitation facility to one utilizing the activated sludge process. In the course of this conversion, existing features were either remodelled or removed, and a large number of new elements constructed. The Return Sludge Pumping Station was part of this new construction program, and is now almost the only structure within the plant whose original construction can be associated with this important development in the history of sewage treatment in Providence. The function of this station was to pump a portion of the biologically-active sludge back into the treatment process.

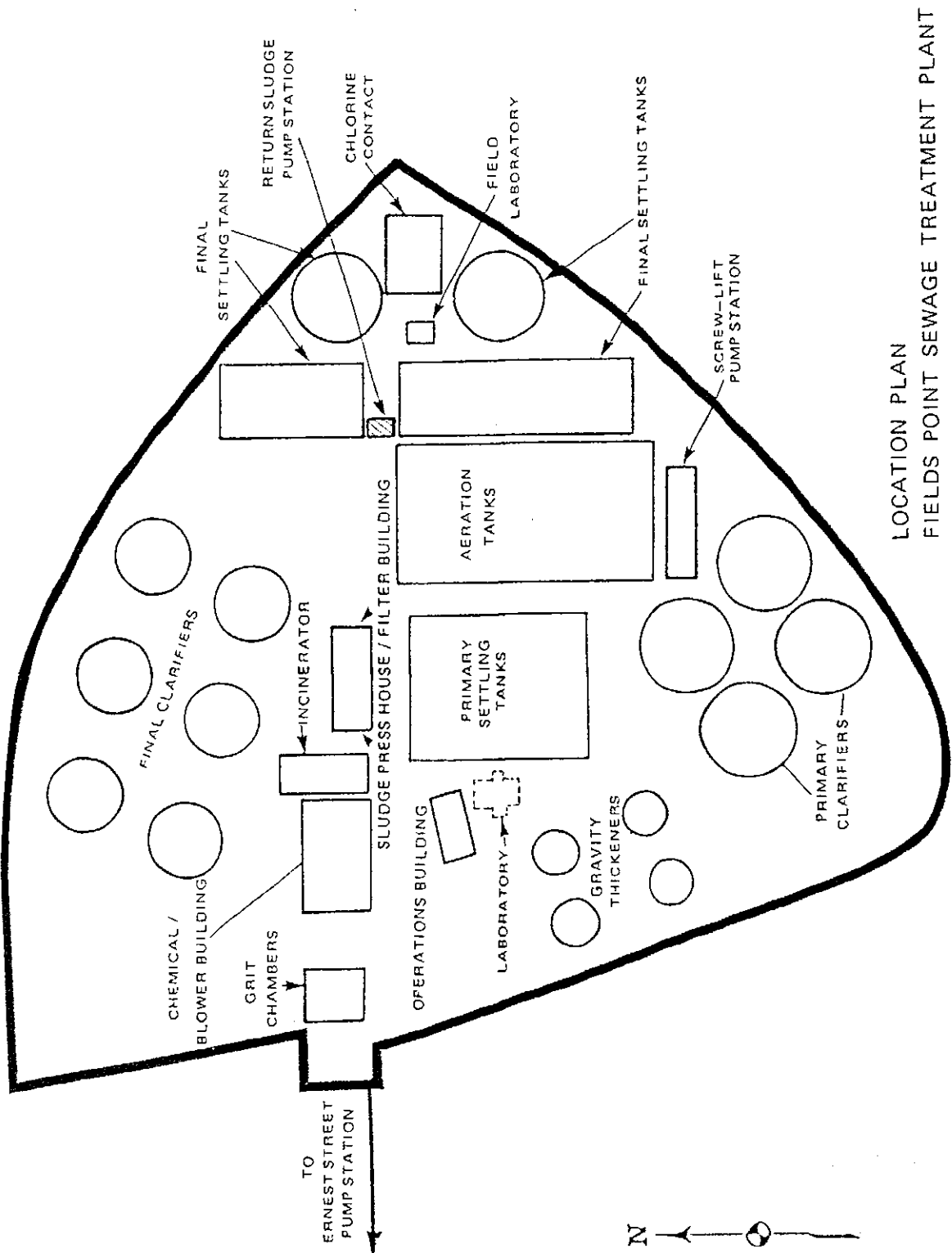
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The site of the Return Sludge Pumping Station corresponds to that of an effluent well that was built during the original development of Fields Point between 1898 and 1901. During conversion of the facility from the chemical precipitation to activated sludge process in the 1930's, the first intent was to remodel the effluent well to a gravity-operated sludge return. This plan, developed in 1930, was apparently abandoned in 1934. The decision to return sludge by pumping led to complete removal of the old effluent well and erection of this pump station in its place. A new effluent well was built at what is now the site of a field laboratory.

BIBLIOGRAPHY:

Anderson-Nichols & Co. and Waterman Engineering Co.
City of Providence, Study of Sewerage Improvements, Step 1,
Facilities Plan, Engineering Report, 1979.

Narragansett Bay Commission, Drawing Files: FP37, 84, 279, 397,
398.



LOCATION PLAN
FIELDS POINT SEWAGE TREATMENT PLANT